WHAT IS CLAIMED IS:

1. A radiographic apparatus comprising:

a conversion circuit section in which pixels each including a conversion element that converts incident radiation into an electrical signal and a switch element that transfers the electrical signal are two-dimensionally arrayed, and which comprises a control interconnection that connects the pixels in a row direction and a signal interconnection that reads the electrical signal from said conversion element through said switch element;

a driving circuit section which sequentially drives a plurality of control interconnections; and

a read circuit section which is connected to a plurality of signal interconnections and reads the electrical signal from said conversion element for each row,

wherein said read circuit section includes

a refresh device which refreshes each row by applying a first bias to said read-accessed conversion element, and

a reset device which executes reset by applying a second bias to said signal interconnection by using at least one reset switch.

2. The apparatus according to claim 1, wherein said read circuit section further includes an amplification device which amplifies the electrical signal read to

said signal interconnection, a storage device which temporarily stores the amplified electrical signal, and a serial conversion device which serially converts the stored electrical signal.

3. The apparatus according to claim 1, wherein, after the read is executed, said read circuit section turns on said switch element and switches the reset switch to the first bias side to drive said refresh device to refresh said conversion element of each row, and then, switches the reset switch to the second bias side to drive said reset device to reset said signal interconnection.

4. The apparatus according to claim 1, wherein said conversion element and said switch element contain amorphous silicon.

5. The apparatus according to claim 1, wherein said conversion element and said switch element are formed on the same substrate in the same step.

6. The apparatus according to claim 1, wherein said conversion element comprises a first metal thin-film layer that is formed on a substrate as a lower electrode, an insulating layer that is formed on said first metal thin-film layer and made of amorphous silicon nitride that inhibits passage of electrons and holes, a photoelectric conversion layer that is made of hydrogenated amorphous silicon and formed on said insulating layer, an n-type injection inhibiting layer

that is formed on said photoelectric conversion layer and inhibits injection of the holes, and a transparent conductive layer that is formed on said injection inhibiting layer as an upper electrode or a second metal thin-film layer that is formed on part of said injection inhibiting layer,

said switch element is formed on the same substrate as that of the convention element and comprises a first metal thin-film layer that is formed on the substrate as a lower gate electrode, a gate insulating layer that is formed on said first metal thin-film layer and made of amorphous silicon nitride, a semiconductor layer that is made of hydrogenated amorphous silicon and formed on said gate insulating layer, an n-type ohmic contact layer that is formed on said semiconductor layer, and a transparent conductive layer or a second metal thin-film layer that is formed on said ohmic contact layer as a source/drain electrode,

in a refresh mode, an electric field is applied to said conversion element in a direction to guide the holes from said photoelectric conversion element to said second metal thin-film layer,

in a photoelectric conversion mode, an electric field is applied to said conversion element in a direction to make the holes generated by the radiation that is incident on said photoelectric conversion layer

stay in said photoelectric conversion layer and guide the electrode to said second metal thin-film layer, and

the holes that are stored in said photoelectric conversion layer or the electrons that are guided to said second metal thin-film layer in the photoelectric conversion mode are detected as an optical signal.

7. The apparatus according to claim 1, further comprising a wavelength converter which converts a wavelength of the radiation.

8. The apparatus according to claim 7, wherein said wavelength converter contains one of Gd_2O_2S, Gd_2O_3, and CsI as a main component.

9. The apparatus according to claim 1, further comprising a bias interconnection which applies a bias to said conversion element.

10. The apparatus according to claim 9, wherein said conversion element has at least two electrodes comprising a first electrode connected to said switch element and a second electrode connected to said bias interconnection,

in a moving image mode, said read circuit section switches the reset switch to the first bias and turns on said switch element to execute the refresh operation of said photoelectric conversion element, and

in a still image mode, a second switch element connected to said bias interconnection switches the bias to execute the refresh operation of said

conversion element.

11. A radiographic apparatus comprising:

a conversion circuit section in which pixels each including a conversion element that converts incident radiation into an electrical signal and a first switch element that transfers the electrical signal are two-dimensionally arrayed, and which comprises a control interconnection that connects the pixels in a row direction and a signal interconnection that reads the electrical signal from said conversion element through said first switch element;

a driving circuit section which sequentially drives a plurality of control interconnections; and

a read circuit section which is connected to a plurality of signal interconnections and reads the electrical signal from said conversion element for each row,

wherein said read circuit section comprises a current integration type operational amplifier at a first stage,

said operational amplifier comprises, between an inverting terminal and an output terminal, a capacitive element to integrate the electrical signal transferred from said conversion element through said first switch element and a second switch element to reset said capacitive element, and

said operational amplifier comprises, at a

noninverting terminal, a bias supply device which selectively supplies at least two biases comprising a first bias and a second bias, a refresh device which refreshes each row by applying the first bias to said conversion element read-accessed by using said first switch element and said second switch element, and a reset device which executes reset by applying the second bias to said capacitive element by using said second switch element.

12. The apparatus according to claim 11, wherein said read circuit section further includes a storage device which temporarily stores the electrical signal read from said conversion element by said current integration type operational amplifier, and a serial conversion device which serially converts the stored electrical signal.

13. The apparatus according to claim 11, wherein, after the read is executed, said read circuit section turns on said first switch element and said second switch element, and drives said bias supply device to supply the first bias to the noninverting terminal of said operational amplifier to refresh said conversion element of each row, and then, while keeping said second switch element ON, drives said bias supply device to supply the second bias to the noninverting terminal to reset said capacitive element.

14. The apparatus according to claim 11, wherein said

conversion element and said switch element contain amorphous silicon.

15. The apparatus according to claim 11, wherein said conversion element and said switch element are formed on the same substrate in the same step.

16. The apparatus according to claim 11, wherein

said conversion element comprises a first metal thin-film layer that is formed on a substrate as a lower electrode, an insulating layer that is formed on said first metal thin-film layer and made of amorphous silicon nitride that inhibits passage of electrons and holes, a photoelectric conversion layer that is made of hydrogenated amorphous silicon and formed on said insulating layer, an n-type injection inhibiting layer that is formed on said photoelectric conversion layer and inhibits injection of the holes, and a transparent conductive layer that is formed on said injection inhibiting layer as an upper electrode or a second metal thin-film layer that is formed on part of said injection inhibiting layer,

said first switch element is formed on the same substrate as that of the convention element and comprises a first metal thin-film layer that is formed on the substrate as a lower gate electrode, a gate insulating layer that is formed on said first metal thin-film layer and made of amorphous silicon nitride, a semiconductor layer that is made of hydrogenated

amorphous silicon and formed on said gate insulating layer, an n-type ohmic contact layer that is formed on said semiconductor layer, and a transparent conductive layer or a second metal thin-film layer that is formed on said ohmic contact layer as a source/drain electrode,

in a refresh mode, an electric field is applied to said conversion element in a direction to guide the holes from said photoelectric conversion element to said second metal thin-film layer,

in a photoelectric conversion mode, an electric field is applied to said conversion element in a direction to make the holes generated by the radiation that is incident on said photoelectric conversion layer stay in said photoelectric conversion layer and guide the electrode to said second metal thin-film layer, and

the holes that are stored in said photoelectric conversion layer or the electrons that are guided to said second metal thin-film layer in the photoelectric conversion mode are detected as an optical signal.

17. The apparatus according to claim 11, further comprising a wavelength converter which converts a wavelength of the radiation.

18. The apparatus according to claim 17, wherein said wavelength converter contains one of Gd_2O_2S, Gd_2O_3, and CsI as a main component.

19. The apparatus according to claim 11, further

comprising a bias interconnection which applies a bias to said conversion element.

20. The apparatus according to claim 19, wherein said conversion element has at least two electrodes comprising a first electrode connected to said first switch element and a second electrode connected to said bias interconnection,

in a moving image mode, said read circuit section turns on said first switch element to execute the refresh operation of said photoelectric conversion element, and

in a still image mode, the bias connected to said bias interconnection is switched to execute the refresh operation of said conversion element.

21. A radiographic system comprising:

a radiation source which irradiates a person or object to be examined with radiation;

a radiographic apparatus of claim 1, which detects the radiation;

an image processing apparatus which converts an electrical signal output from said radiographic apparatus into digital data and executes image processing; and

a display apparatus which displays the image processed by said image processing apparatus.

22. A radiographic system comprising:

a radiation source which irradiates a person or

an object to be examined with radiation;

a radiographic apparatus of claim 11, which detects the radiation;

an image processing apparatus which converts an electrical signal output from said radiographic apparatus into digital data and executes image processing; and

a display apparatus which displays the image processed by said image processing apparatus.

23. A driving method for a radiographic apparatus having a conversion circuit section in which pixels each including a conversion element that converts incident radiation into an electrical signal and a switch element that transfers the electrical signal are two-dimensionally arrayed, and which comprises a control interconnection that connects the pixels in a row direction and a signal interconnection that reads the electrical signal from the conversion element through the switch element,

a driving circuit section which sequentially drives a plurality of control interconnections, and

a read circuit section which is connected to a plurality of signal interconnections and reads the electrical signal from the conversion element for each row, comprising:

a refresh step of refreshing each row by applying a first bias to the conversion element read-accessed by

the read circuit section; and

a reset step of executing reset by applying a second bias to the signal interconnection by using at least one reset switch.